

**U.S. ENVIRONMENTAL PROTECTION AGENCY  
NATIONAL HOMELAND SECURITY RESEARCH CENTER**

**TECHNICAL BRIEF  
Water Systems Materials Disposal Decision Support Tool**

*Background*

Drinking water treatment plants, water supply networks, the water using community, and wastewater treatment plants are linked together in an integrated system. In the event that chemical or biological contamination is introduced at some point in this system, significant cleanup may be required to ensure public safety and overcome public perception. To provide technical support to the EPA and other federal, state, and local government agencies, EPA's National Homeland Security Research Center (NHSRC) has developed the Water Systems Materials Disposal Decision Support Tool (DST) to assist incident responders as they determine the safest and most appropriate method for disposing of wastes that may be generated from the biological or chemical contamination of the water system.

*Overview of the Decision Support Tool*

The tool is a web-based platform that helps in emergency response as well as in training and planning for any potential event. The Water Systems Material Disposal DST provides a starting point for cleanup activities, a quick reference to technical information, regulations, and guidance to work through a series of decisions needed to assure safe and efficient removal, transport, and disposal of waste materials. The information available in the tool will be centrally updated as new information becomes available, and old information (such as contact information for key personnel) changes.

Based on the different components of the water network, the tool has been divided into four sub-modules:

- Drinking Water Treatment Plant Decontamination DST;
- Drinking Water Distribution System DST;
- Drinking Water System End User Items Disposal DST; and,
- Wastewater Treatment Plant Decontamination Disposal DST.

*Content of the Decision Support Tool*

Each sub-module provides the following information to assist personnel who are responsible for disposing of materials from a water system contaminated with a chemical or biological agent:

- Estimates of the types and quantities of wastes that may be generated based on a few simple input parameters (e.g., estimates of water and sludge that may require disposal from a wastewater treatment plant can be made by entering the plant's capacity and selecting the appropriate unit operations);

- Disposal facility information with database of incinerators, landfills (hazardous waste, municipal solid waste, and construction/demolition debris), wastewater treatment facilities, centralized waste treaters, and metal recyclers;
- Contaminant and decontaminant characteristics;
- Applicable waste transportation regulations and guidance;
- Worker protection information and other guidance; and
- Library of useful resources (e.g., state and local emergency response contacts, case studies, guidance documents).

### *Users and Benefactors of the Decision Support Tool*

The primary audience for this tool is (1) emergency response authorities who have to determine the most appropriate disposal options for debris from a water system; (2) municipal water and wastewater system operators responsible for contingency planning related to contamination incidents; (3) state and local agencies who have responsibility for facility permits and ensuring compliance with applicable regulations; (4) the waste management and water utility industries that provide for safe disposal of these wastes without affecting the operation of their facilities, violating any applicable regulations, and providing safe working conditions for their employees.

### *Additional Useful Decision Support Tools*

The Water Systems Materials Disposal DST is part of EPA's larger Suite of Disposal Decision Support Tools. This suite contains the following additional tools:

- Building Decontamination Residue Disposal DST – Provides guidance for disposing of wastes generated from the biological or chemical contamination of a building, such as an office, school, hotel, theater, shopping mall, or hospital.
- Decontamination Wastewater Disposal DST – Provides guidance for disposing of water used to decontaminate materials or persons after a biological or chemical incident (e.g., sodium hypochlorite solution used to neutralize anthrax).
- Agricultural Biomass Disposal DST – provides guidance for the disposal of animal carcasses or plant material that may be infected with a pathogen (e.g., avian influenza).
- Natural Disaster Debris Disposal DST – provides guidance for disposing of wastes that may be generated from a large natural disaster (e.g., Hurricane Katrina).

A DST designed to assist in the disposal of radiological contaminated wastes that may be generated from the detonation of a "dirty bomb" is also in development.

### *Questions or Comments*

For more information, visit the NHSRC Web site at [www.epa.gov/nhsrc](http://www.epa.gov/nhsrc), login to the tool at <http://www2.ergweb.com/bdrtool/login.asp>, or contact Kathy Nickel at (513) 569-7955 or [nickel.kathy@epa.gov](mailto:nickel.kathy@epa.gov).